GemSOC
GemSOC Innovision Inc.

IPC-4000 Wireless MPEG4 IP Camera

Quick Start Manual

Version 0.30

July 2003

(for firmware release 07/14/2003 or later)

IP Address: Automatic IP (DHCP)

Wireless LAN ESSID: Auto Search

Username: admin

Password: admin

IPS Division, GemSOC Innovision

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Changes or modifications not expressly spproved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

1 What you need before setup

● Required

- ■ IPC-4000 IP Camera
- ■ 5V Power Adaptor
- ■ 802.11b Compliant Wireless LAN Environment

● Optional items

- ■ Ethernet RJ-45 Cable
- ■ Cross-over Ethernet RJ-45 Cable
- ■ Video Cable for TV Out

● PC Requirement

- ■ Supported Platforms
  - ◆ Windows 98 SE
  - ◆ Windows 98 Me
  - ◆ Windows 2000 (Service Pack or later)
  - ◆ Windows XP

- ■ Required Application
  - ◆ Windows Media Player 7.1 or newer
  - ◆ Internet Explorer Version 5.5 or newer

2 Hardware Description

LED 1
Boot-up/Ready
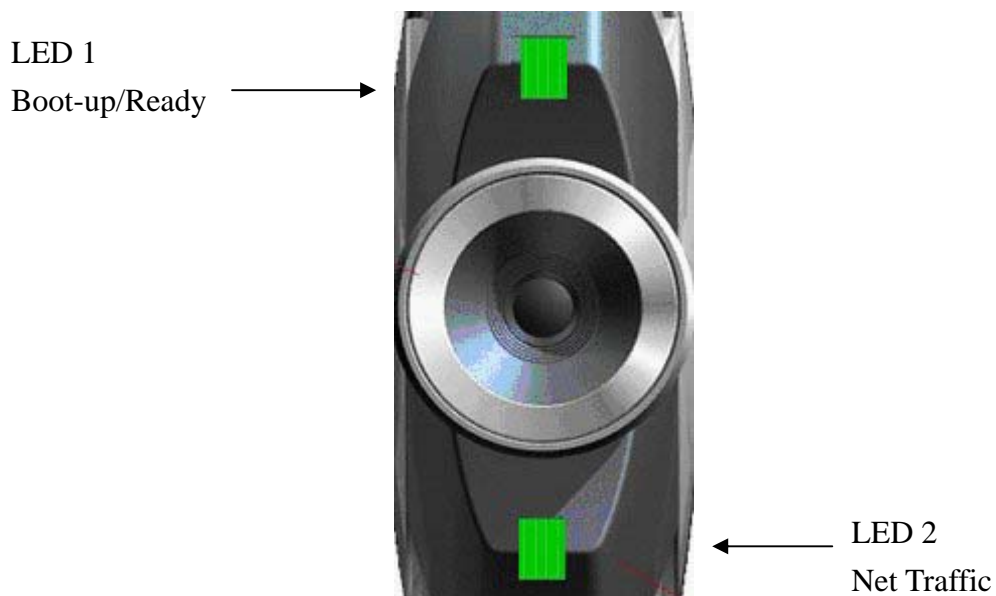
LED 2
Net Traffic

LED 1 (Green): Boot-up/Ready LED
Notifies if boot-up process is completed; it blinks during boot-up and stays on once system is ready.

LED 2 (Green and Orange) Net Traffic LED
Blinks when users get online to view the camera,
Green: Wireless Interface Traffic
Orange: Wired (Ethernet) Interface Traffic

3 Getting Started

3.1 Start with Wireless Connection

Below graph shows an example of typical Wireless LAN environment. If you don't have any Wireless LAN around, please skip to the next section *"3.2. Start with Wired Connection"*

By default, IPC-4000 will automatically search for Access Point (AP) and get IP address over DHCP protocol (refer to Network setting of Configuration for details). Therefore you only need to power up IPC-4000 and it will get online automatically. In below example, IPC-4000 gets an automatic IP 192.168.1.113.

Go to section *"3.3 Use Setup Utility"*.

DHCP assigned:
192.168.1.113

DHCP assigned:
192.168.1.111

IPC-4000

PC with Wireless Connection

DHCP assigned:
192.168.1.112

Wireless LAN Access Point

PC with Wired Connection

LAN

Wireless LAN Example

3.2 Start with Wired Connection

Below graph shows an example of typical Wired (Ethernet) environment. Connect IPC-4000 to LAN with the supplied Regular Ethernet Cable (over a switch hub, for example).

By default, IPC-4000 will automatically get IP address over DHCP protocol (refer to Network setting of Configuration for details). Therefore you only need to power up IPC-4000 and it will get online automatically. In below example, IPC-4000 gets an automatic IP 192.168.1.113.
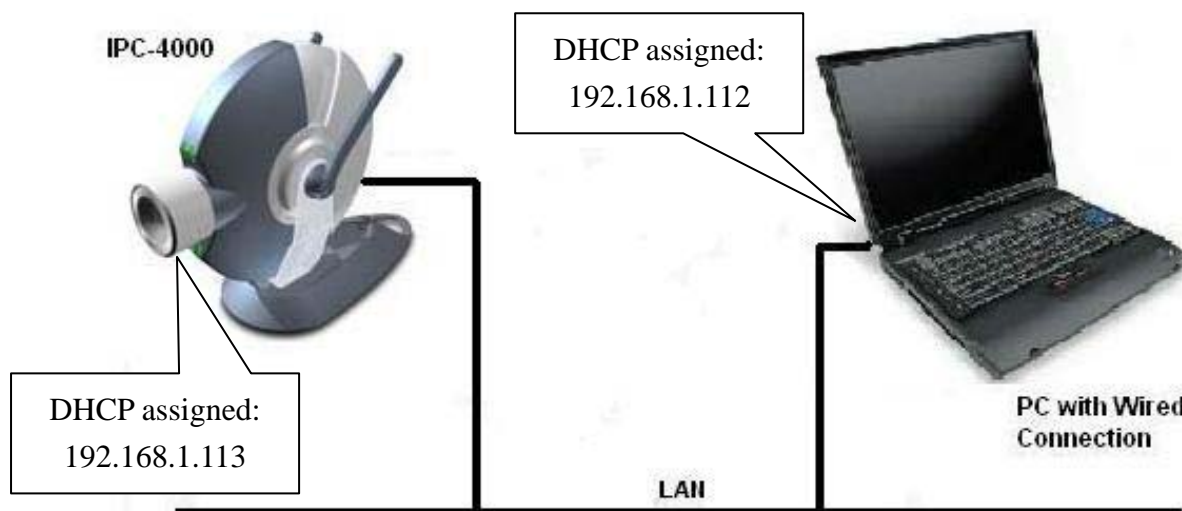
Wired LAN Example

3.3 Use Setup Utility

At a LAN connected PC, install the **IPC-4000 Setup Utility** and run it. After hitting the search button, you should see all available cameras in the Camera List and their network related settings.

In this example, only one camera with IP 192.168.1.113 is shown. Network settings are default values, which are **DHCP** and **Auto Select.** You can configure them if necessary. For instance, you may want to specify the ESSID, or to specify a fixed IP.
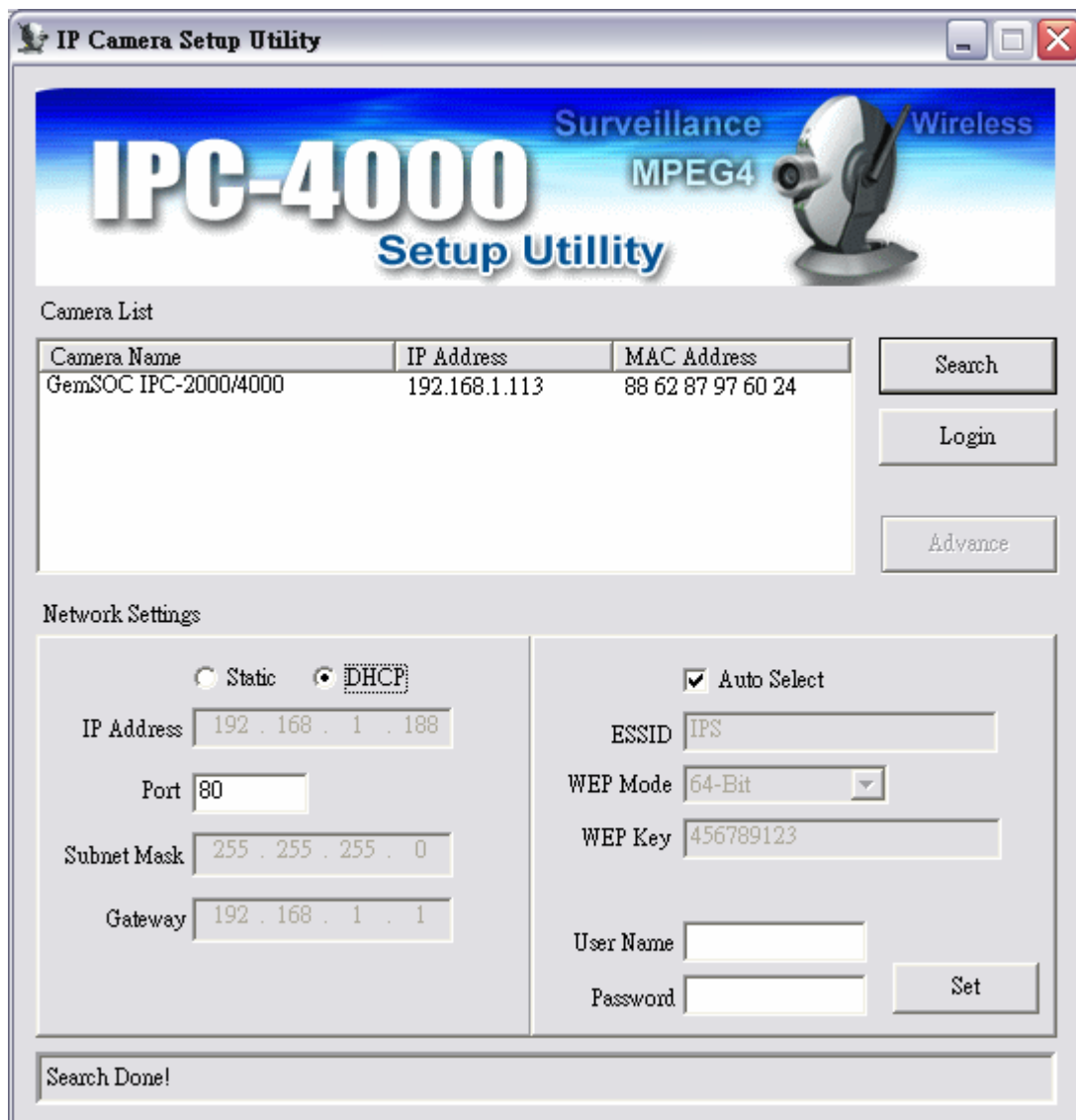
Click the Login button, the IPC-4000 Home Page will be automatically brought up with Internet Explorer.

3.4 Camera Home Page

At the IPC-4000 Home Page, enter the username and password to login

Default Username: admin
**Default Password: admin**

Enter Username and
Password

3.5 Live View Page

After a successful login, you will see the live view page with the Windows
Media Player animation running. Please wait a few seconds (4 ~ 7 sec)
while Windows Media Player is buffering the stream, and the progress of
buffering is shown at the lower-left corner of the window.

ATTENTION

At the first time of login, you will be asked to install the ActiveX object to enable the Instant Record function,
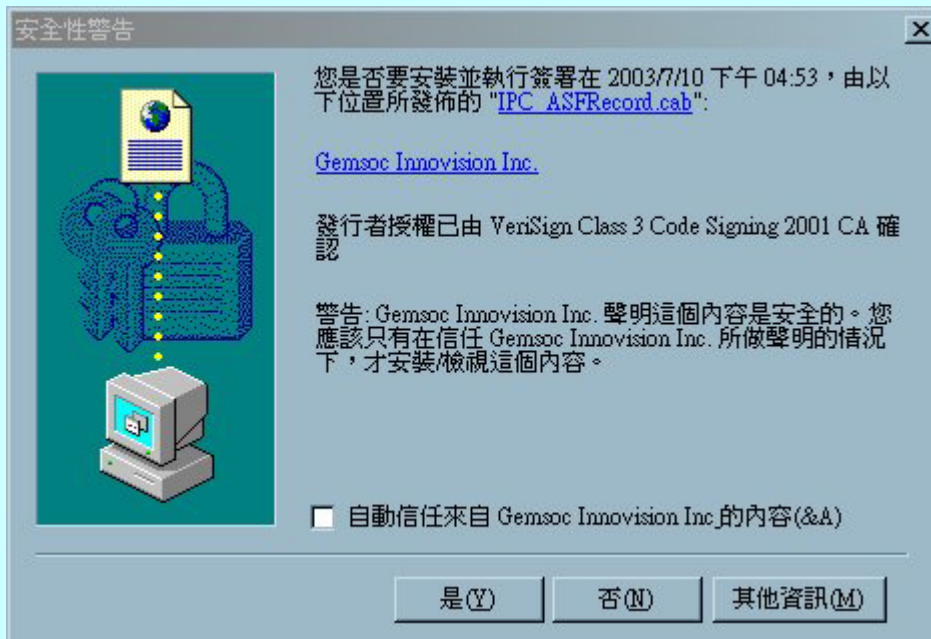
Please click "Yes" to accept and install it.

Then Live View page shows the real-time video. Adjust the speaker and PC volume to an appropriate level. You can adjust the display size with the pull-down menu on the left.
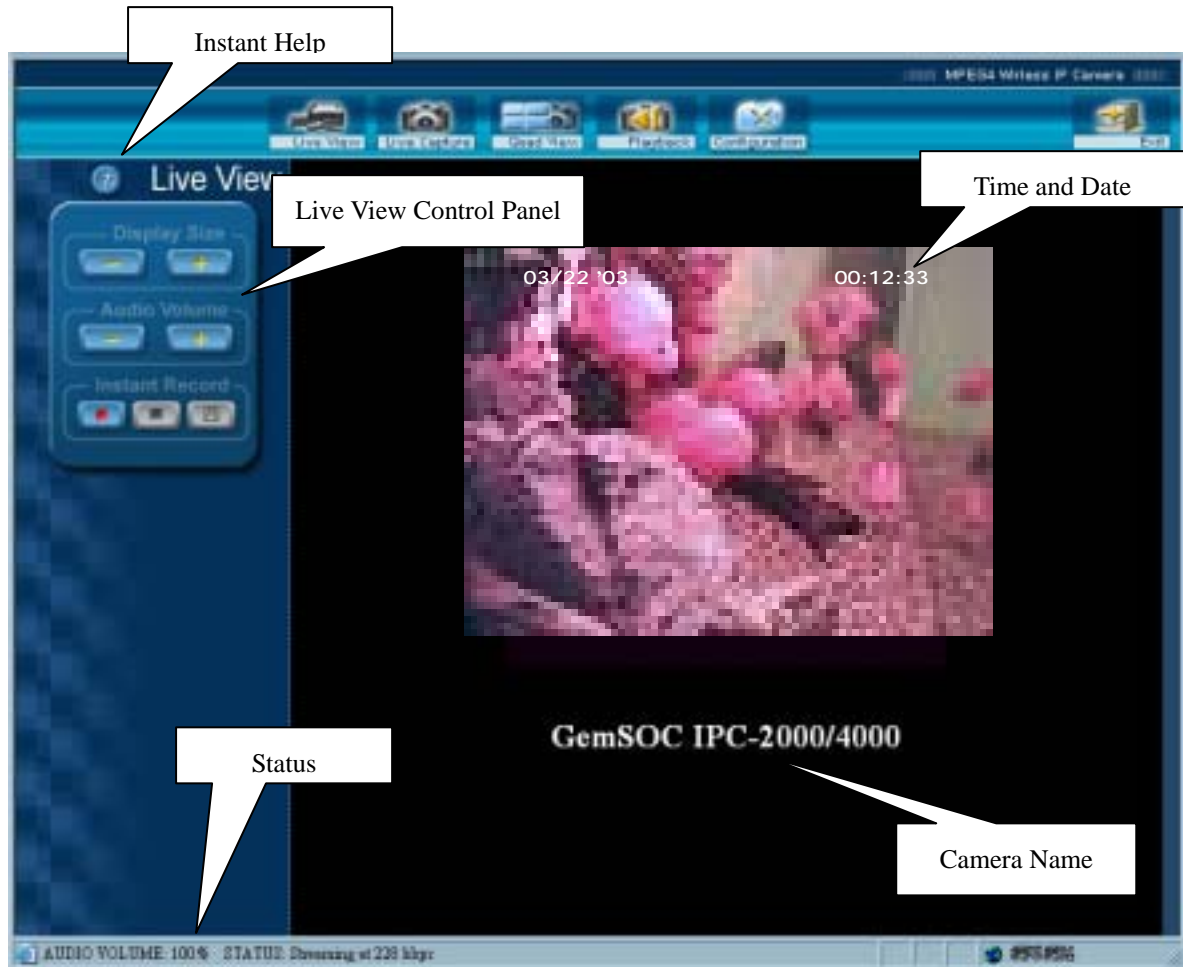
4 Quick Configuration of Wireless LAN

Hit [Configuration] at the top to enter configuration, then the network setting menu is shown as follows,

■ Network and Wireless LAN Configuration

Please make sure you already know the settings of your Wireless LAN Access Point (AP). If you want IPC-4000 to connect to a specific AP, disable Auto Search and enter the ESSID of the AP.

If your AP has the WEP Encryption enabled, enter the WEP related information at Advanced mode by hitting the "Advanced" button at upper-right coner.

5 Quick Configuration of Imaging

■ Imaging Configuration
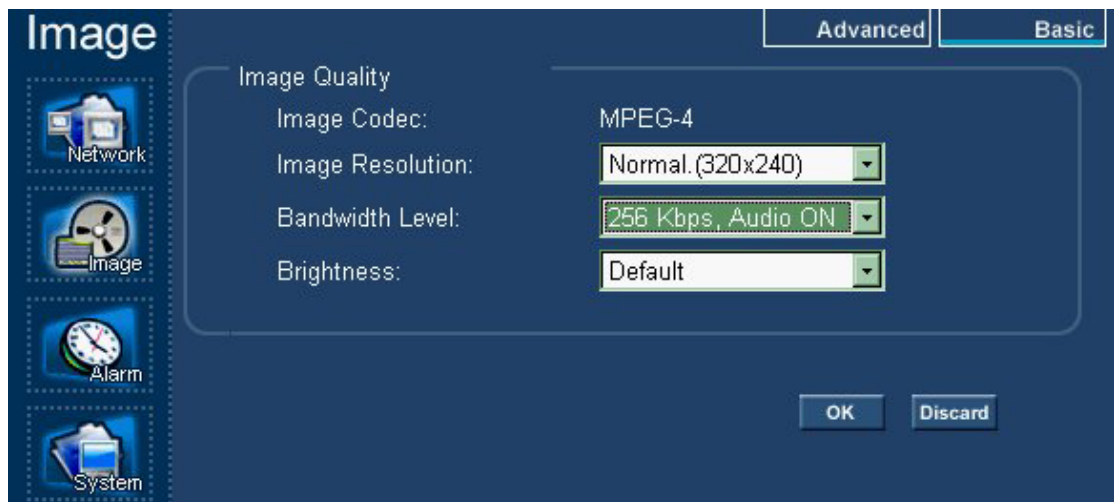
Users are allowed to change Frame Size, Bandwidth, Image Brightness in Basic mode, and Color Emphasis (Red/Green/Black) in Advanced mode, according to the requirements of image quality and network bandwidth.

For different LAN/Internet connection, you may need to adjust the Bandwidth Level to maintain stable streaming.

6 Factory Default

Under some circumstances, you may want to reinstate the machine to factor default settings. To do this, you can simply press the Reset button on the back panel at power-up. The correct procedure is,

- ■ Turn off the camera power (unplug the power adaptor)
- ■ Press and hold the Reset button
- ■ Turn on the camera power (plug the power adaptor)
- ■ Wait for 3 seconds
- ■ Release the Reset button and the camera will boot up as in normal condition

After completion of boot-up, you will find all settings are reinstated. Note that the Network interface will become "Automatic IP" (DHCP) and the Wireless interface will become "Auto Search". You need to run IP Camera

Setup Utility to redo the network settings.

7 Instant Help

IPC-4000 has a built-in Instant Help file. You can open it at each page by

clicking button. Below is the content of this file for your quick reference.

IPC-4000 HELP

Live View Page

Live View	After buffering for a few seconds, live video is displayed at center of this window. If you couldn't see the live view correctly, please check, 1) if Windows Media Player is well installed. Windows Media Player 7.1 or newer 2) if you login with a unsupported platform OS: Windows 98 SE, Windows 98 Me, Windows 2000, Windows XP Browser: Internet Explorer Ver. 5.5 or newer 3) if your network bandwidth is enough. Depending on the Max. Bandwidth setting at Image section of Configuration (ranges from 32Kbps to 384Kbps), you need to have stable bandwidth of specific amount. For example, if you remotely login to this camera from a dial-up network of 56Kbps, you have to lower the bandwidth to 48 or 32Kbps to maintain stable streaming.
Live View Status	At lower left of Internet Explorer, you should see the status bar showing messages of system status, like audio volume, buffering progress, and streaming bit rate. If the status bar is not displayed, enable it at IE's menu Edit->Status Bar.

Display Size 	Display size of image can be changed by hitting "+" and "-" buttons. Available size ranges from 80x60 to Full Screen. Remember to press "ESC" key to return from Full Screen Mode.
Audio Volume 	Audio volume can adjusted by hitting "+" and "-" buttons. Available volume ranges from Mute to 100%. Also check the volume setting of PC's sound card.
Instant Record 	Instant record function allows users to record the live video/audio to local hard disk. Hit Record button (Left) to start recording; hit Stop button (Middle) to stop recording. Then hit Save As button (Right) to save the video clip to a desired place.
Live Capture Page	
Live Capture	With the Live Capture function, users can capture still image from the camera as needed. Since this function doesn't need ActiveX and Windows Media Player support, it works under different client platforms like MAC, Linux, and WinCE. *Note: Live Capture only works when no one is online viewing Live View (i.e. MPEG4 mode). The window will show the following warning when more than one user is at Live View mode.*

Update Rate	The Live Capture is regularly triggered at a specified interval. Available options are 10 seconds, 15 seconds, 30 seconds, 60 seconds. Default interval is 10 seconds.
Capture Resolution	Three resolutions are supported at Live Capture mode, which are 640x480, 320x240, 160x120. The resolution change takes effect at the next capture. Default resolution is 320x240.
	Hit Capture button will allow you to capture image instantly before the regular update time comes.

Quad View Page

Quad View	Quad View function offers an easy interface to monitor up to four (4) IP Cameras in one window. The upper-left corner always shows the video of itself while other three show external IP Cameras, which can be customized at System Configuration Page as needed.

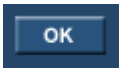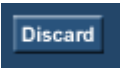|	
	Note that Quad View function is only accessible to Administrator.

Playback Page

Playback Control	IPC-4000 is able to store up to 8 alarm events in the built-in alarm memory. By hitting the event button (Event 1 ~ 8), the information of specific event is shown, which includes, **Trigger By**: Motion Detection or General Purpose Input **Time**: the start time of event trigger. **Length**: The length of each event. Display in seconds. Hit the Play button ▶ Play to play the selected event.
Clear Button	The internal alarm memory can be erased by hitting this button. Note that all events stored on memory will be lost!

Configuration Page

Overview	Since most settings of IPC-4000 are able to be configured at this page, only administrator can see this icon and enter this page. Configuration page is divided into four sections, which are Network, Image, Alarm, and System. Some pages contains the Advanced/Basic switch buttons and the default display is at

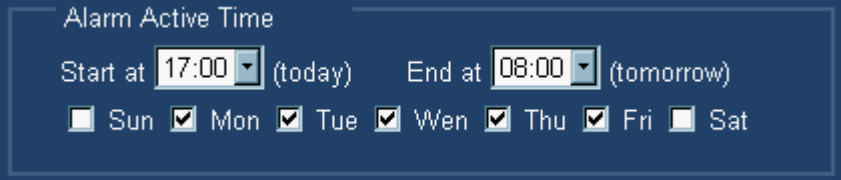|	
	Basic in order to keep concise display. Once the values are changed, click [OK] button to confirm change, or, click [Discard] button to discard the change.
Network Configuration Page	
Camera Name	An alias name of the IPC-4000 for easier identification.
Port	The TCP/IP communication port. Default value is 80. It can be changed for the following reason: Security: different port number can better prevent unauthorized intruders. Home Gateway IP Sharing: for accessing more than one camera inside a home gateway, the Port Number of cameras have to be set to different values.
Automatic IP	Check it to enable DHCP automatic IP function.
Static IP	To set static IP by specifying IP address, Subnet Mask, Gateway, and DNS Server. Refer to the settings of your network for more details.
Wireless LAN	IPC-4000 supports 802.11b compliant wireless connection at Infrastructure Mode. The default setting is Auto Search. You may need to get the information of your Wireless LAN Access

	Point (AP) like . The settings include,
	Auto Search: check this box to automatically search for an wireless Access Point (AP) with the best signal quality. Once Auto Search is enabled, the following Wireless LAN settings will be voided.
	Note that the AP with WEP Key encryption can NOT be automatically connected.
	ESSID: connect to certain AP by assigning its ESSID.
	WEP Mode (Advanced): choose the WEP encryption mode. Default is 'Disabled'. To enable it, choose either 40Bit or 128Bit and assign the following WEP Key.
	WEP Key (Advanced): in 40Bit mode, enter a hexadecimal encryption key of 10-character long . In 128Bit mode, enter a hexadecimal encryption key of 26-character long.
Dynamic DNS **(Advanced)**	IPC-4000 supports two free Dynamic DNS (DDNS) service providers on Internet. DDNS is useful when your ISP doesn't offer you permanent and fixed IP. When a new IP is assigned to IPC-4000, it will be automatically registered to a DDNS service provider every hour. So that you don't need to know or remember the IP address on Internet. Just enter your URL like http://myaccount.dyndns.org to link to your camera. **Dyndns**: register your service at http://www.dyndns.org **Adsldns**: register your service at http://www.adsldns.org

Image Configuration Page

Image Resolution	Choose 320x240 or 160x120 pixel image resolution.

Bandwidth Level	Choose the upper limit of bandwidth. For different bandwidth level, frame rate, image quality, and audio mode(ON/OFF) will be influenced. Below is a simple reference of the relationship between Bandwidth and Audio Mode 320 x 240 160 x 120 32 Kbps Audio OFF Audio OFF 48 Kbps Audio OFF Audio OFF 64 Kbps Audio OFF Audio ON 96 Kbps Audio OFF Audio ON 128 Kbps Audio ON Audio ON 192 Kbps Audio ON Audio ON 256 Kbps Audio ON Audio ON 384 Kbps Audio ON Audio ON (Default) Unlimited Audio ON Audio ON
Image Quality	Choose the desired image quality. Better Frame Rate will increase frame rate while lowering picture clarity. Better Clarity will increase picture clarity while lowering frame rate.
Brightness	Choose the desired brightness level.
Red, Green, Blue (Advanced)	Choose the desired color accent on R, G, B primaries.

Alarm Configuration Page

Enable Alarm Trigger	A overall switch of alarm related function. To disable the alarm function, simply uncheck this box.
Alarm Active Time	IPC-4000 has a built-in simple calendar of alarm active time. To make an Active Time schedule, simply assign the starting time, ending time and days of a week. For example, to make the alarm start after 5pm and end at 8am the next day on every weekday. Simple set, Alarm Active Time Start at 17:00 ▾ (today) End at 08:00 ▾ (tomorrow) ☐ Sun ☑ Mon ☑ Tue ☑ Wen ☑ Thu ☑ Fri ☐ Sat
Trigger by	The alarm of IPC-4000 can be triggered by the following two reasons, **External Input:** Alarm can be trigger by a signal from External Input port. Please refer to the External Input/Output section of the manual for detailed wiring information. **Motion Detection:** Alarm can be trigger by built-in Motion Detection engine. Check this checkbox to enable it and assign the Sensitivity if necessary. The default sensitivity level (3) should be suitable for regular home environment.
Notify by	Once the alarm triggered, it can be notified by the following three methods, **External Output:** to send an electric pulse to External Output port. Please refer to the External Input/Output section of the manual for detailed wiring information. **Sending Email:** to send an Email to the predefined email

	account. To set the Email account, correct Email address, Server (i.e. SMTP Server), and Subject have to be entered. *Note: currently IPC-4000 doesn't support SMTP servers that need access authentication.* **FTPing Images:** to send the recorded video clip to predefined FTP account. To set the FTP account, correct FTP Server, Username and Password have to be entered.

System Configuration Page

Time Synchronization	System time of IPC-4000 can be synchronized with the following three methods, **with this PC**: synchronization is done with the PC system time, as shown right after this selection. **with below value**: set the time manually. Use pull-down menus to calibrate it. **with NTP server**: NTP servers are public servers on Internet offering time synchronization service. Enter the correct URL and Time Zone here. You can find more NTP servers from a search engine with the key word "NTP server".
Access Control	IPC-4000 controls the access rights with passwords and there are three kinds of accounts: **Admin**: which means Administrator, can access all pages including Playback and Configuration. **User**: can only see Live View page. **Guest**: like User account, guest can only see Live View page.

	But it doesn't need a password at login page. Guest account is disabled by default. To enable it, check the **Enable Guest Account** box and it will be active next time you login. Below is a table of access rights of different kinds of users: <table><thead><tr><th></th><th>**Admin**</th><th>**User**</th><th>**Guest**</th></tr></thead><tbody><tr><td>Need Password?</td><td>Yes</td><td>Yes</td><td>No</td></tr><tr><td>Live View Page</td><td>Yes</td><td>Yes</td><td>Yes</td></tr><tr><td>Playback Page</td><td>Yes</td><td>No</td><td>No</td></tr><tr><td>Configuration Page</td><td>Yes</td><td>No</td><td>No</td></tr></tbody></table>
Quad View Setting	Customize Quad View mode here by specifying the IP, Username, and Password of external IP Cameras. For security reason, the passwords previously set will not be displayed. Users have to re-enter passwords of all active external IP Cameras before hitting OK button of System Configuration Page.
Factory default	Click to reinstate all configuration settings except the IP and Wireless LAN related values.
Reboot	Click to reboot the machine.
	Built: 2003/07/11